

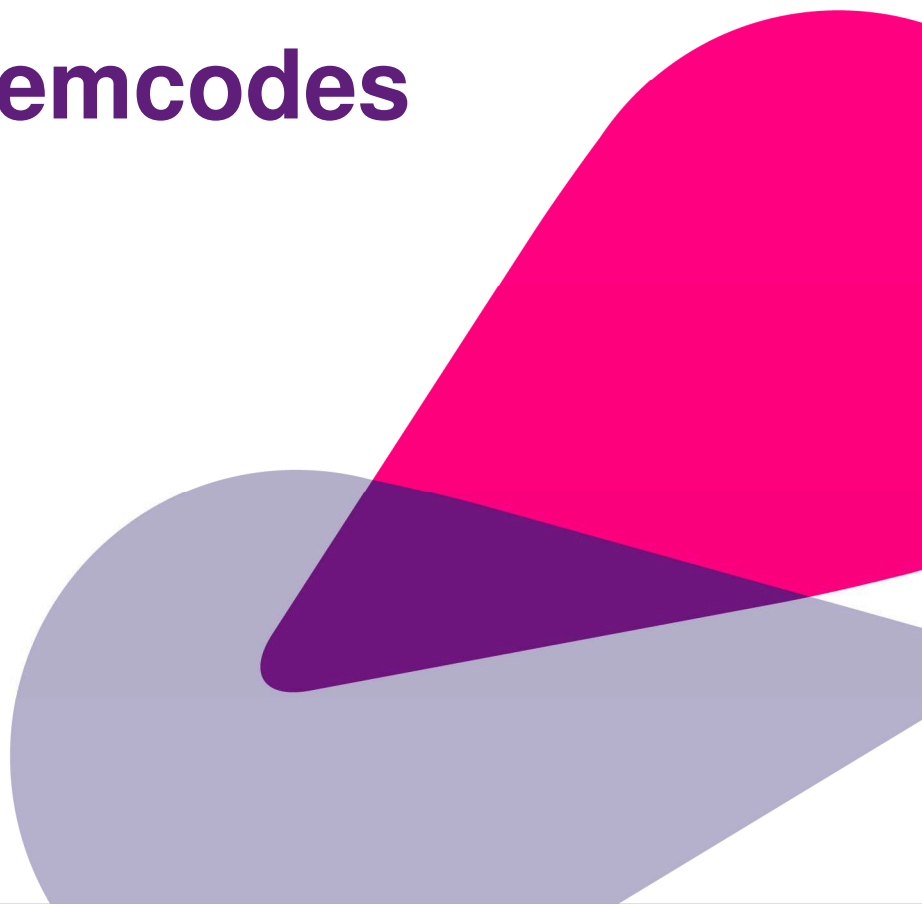
Autoriteit  
Consument & Markt



# Europese Systemcodes

Sectorbijeenkomst

Bijeenkomst 4 februari 2016



# System Operation

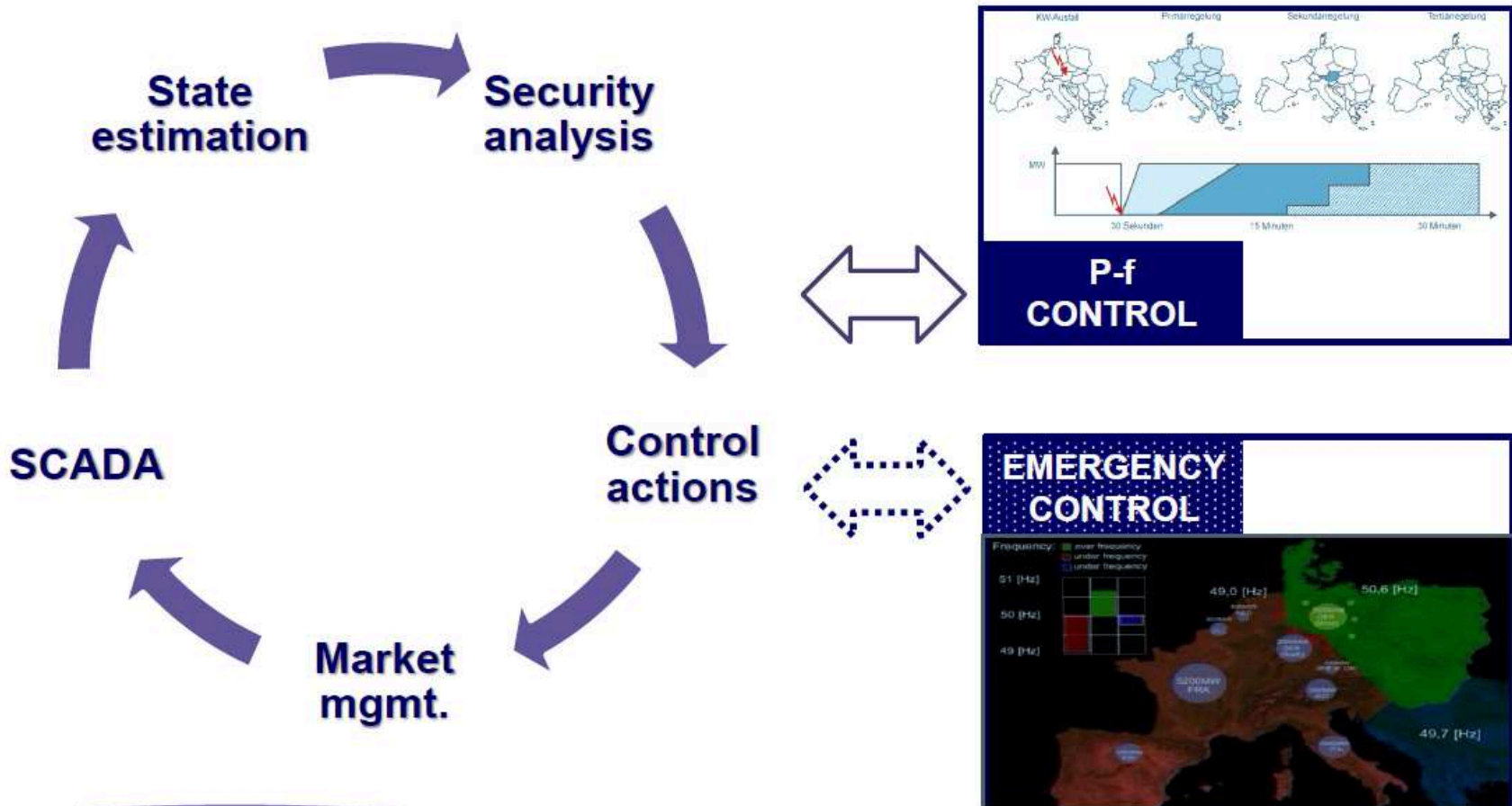
Onderdelen:

- Operational Security
- Operational Planning & Scheduling
- Load Frequency Control & Reserves
- Emergency & Restoration

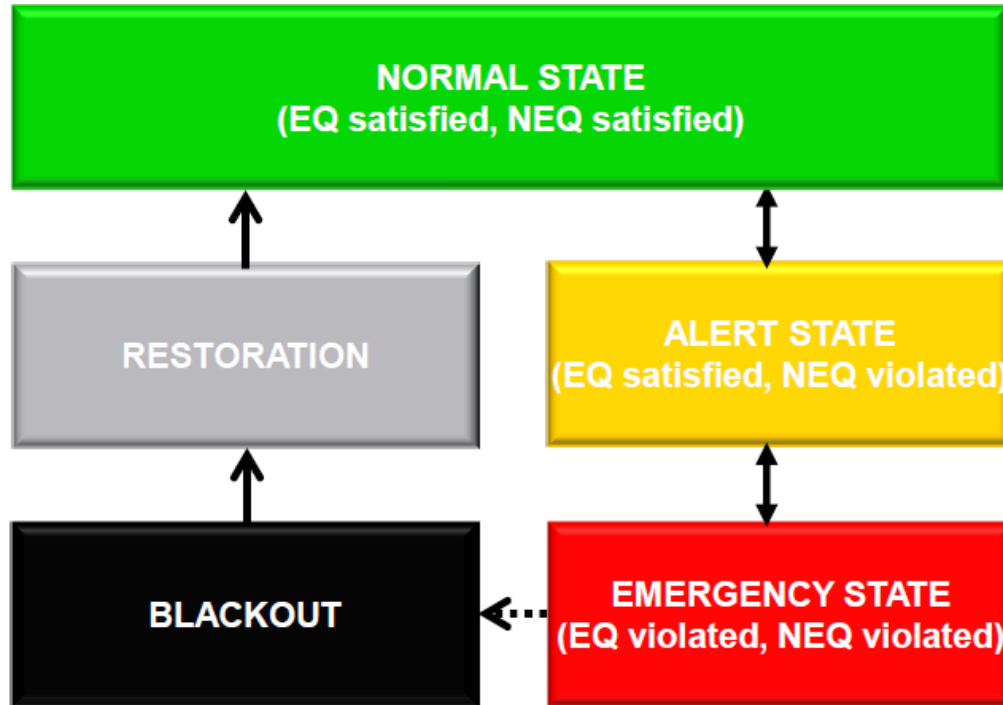
# Onderlinge Samenhang



# OS : Operational Security



# OS : System States



Operational Security and system states

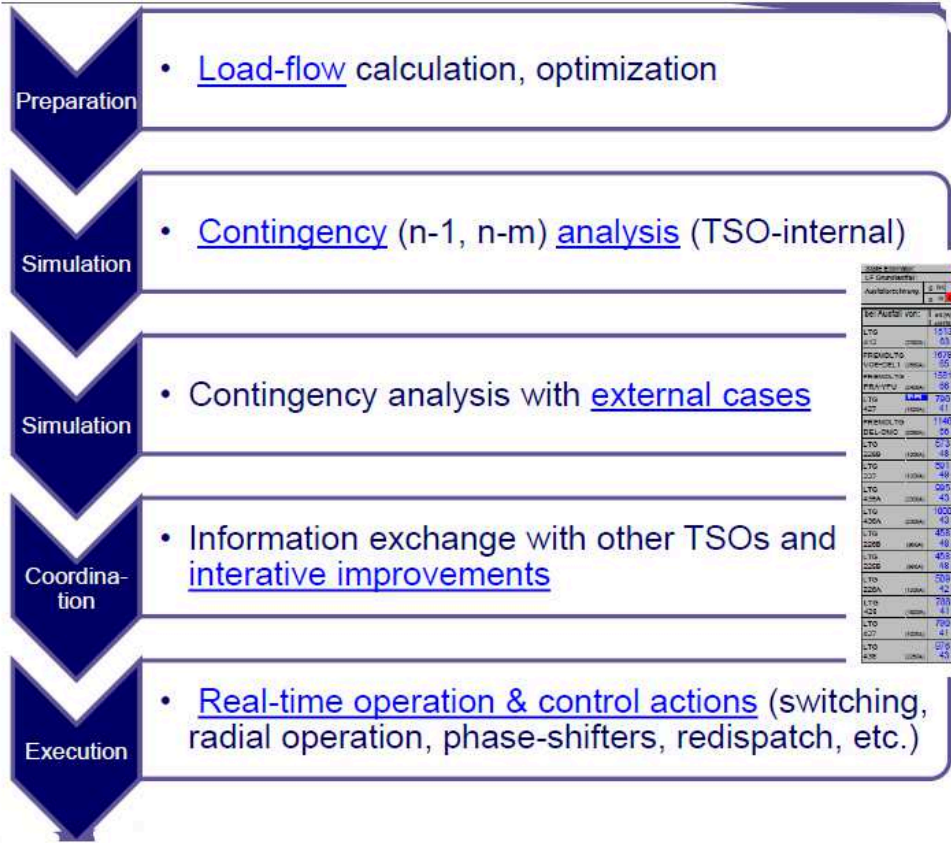
Preventive control actions

Remedial control actions

Emergency control and system defence

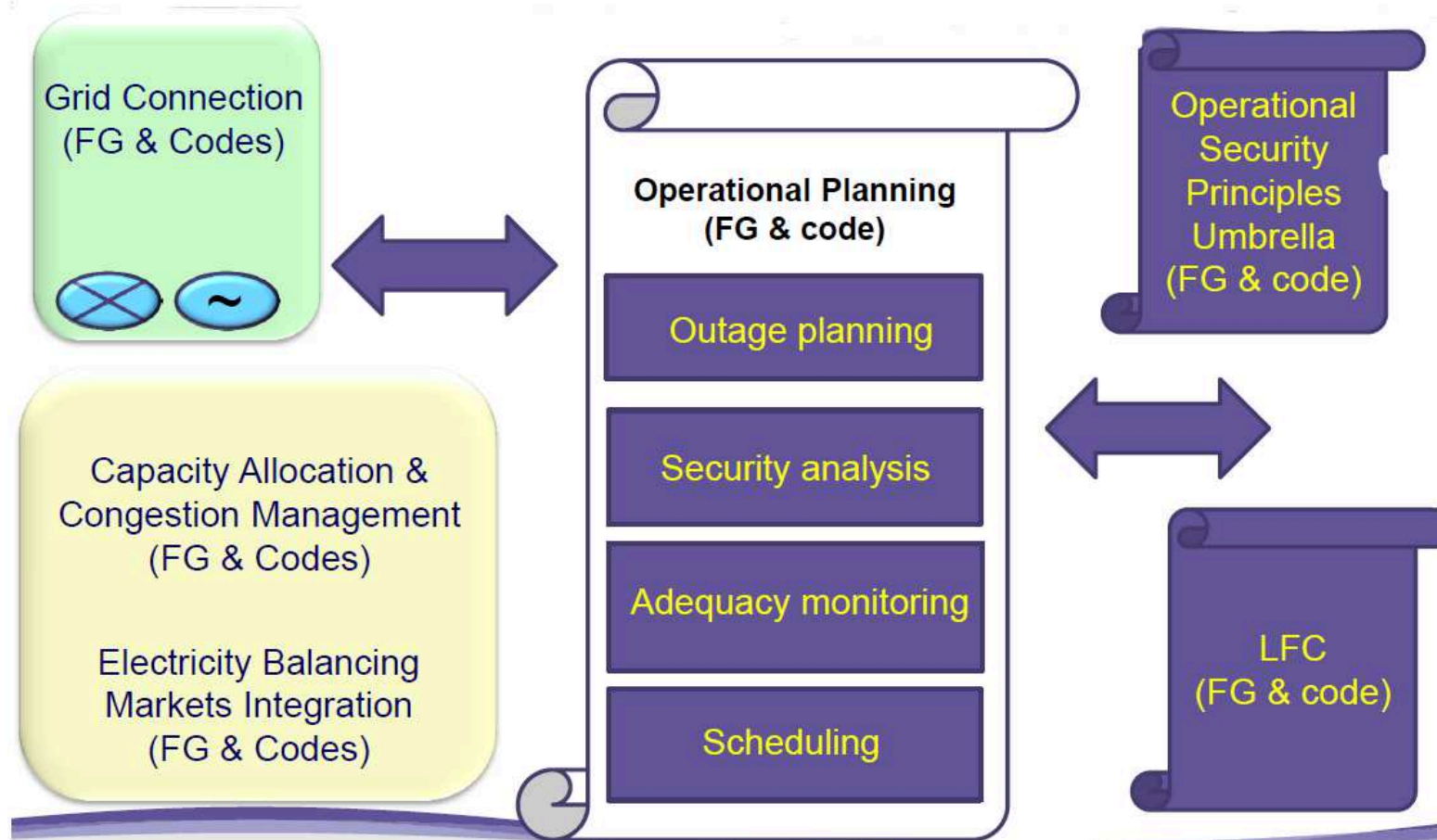
EQ=Equality constraints (e.g. generation/demand balance)  
NEQ = inequality constraints (e.g. voltage thresholds, (n-1)-violations)

# OS : Contingencies

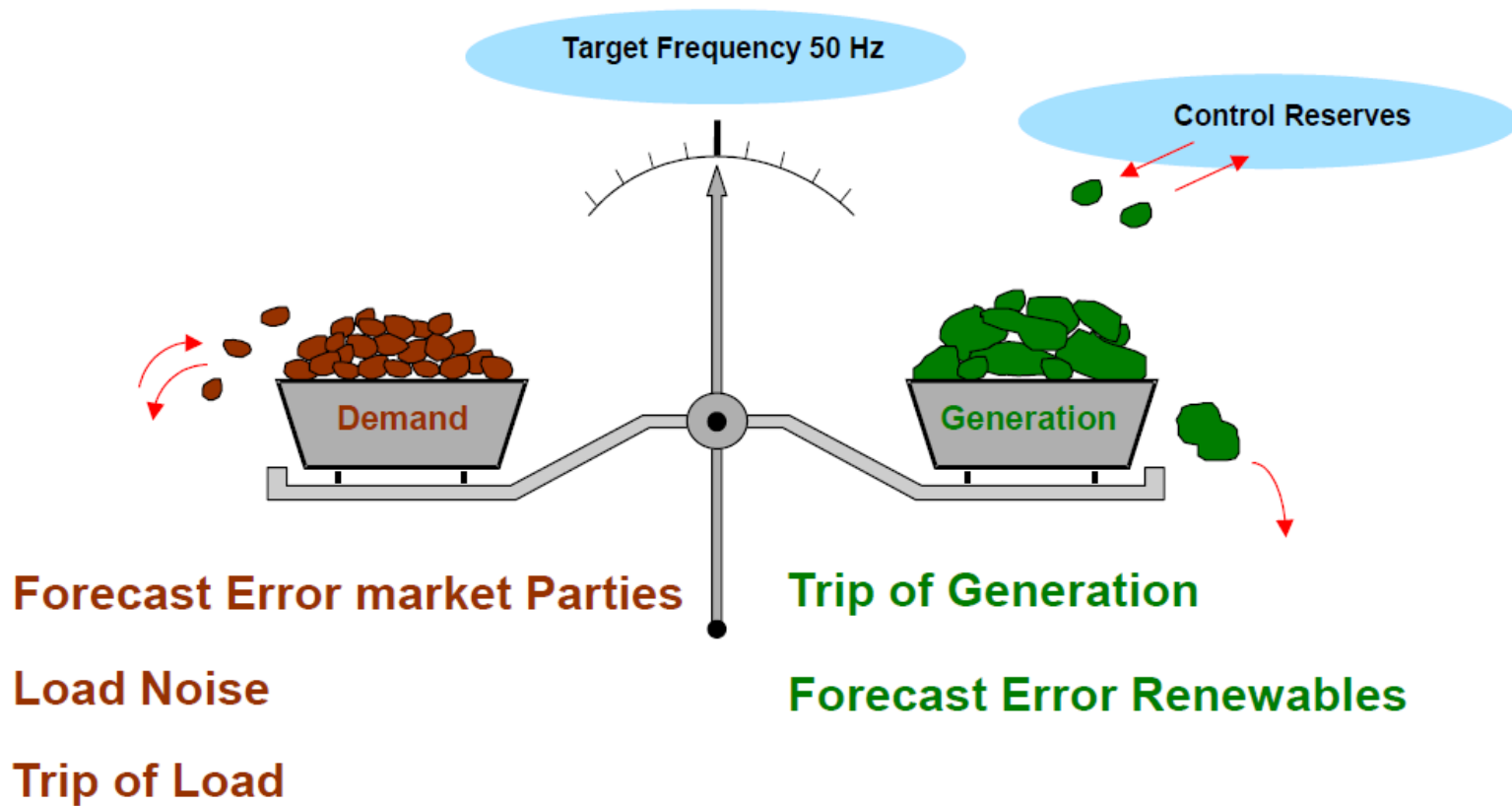


SS/Ausfall	VOL	443N	ES	ES05000	Y00	443N	443N	443N								
LTO		1513		1021		1078	56									
LTO		51		1021		2416	54									
PRESDICTO		1078		1021		1178	53									
PRESDICTO		55		412		2008	54									
PRESDICTO		1251		1021		1007	50									
PRESDICTO		56		425A		1355	77									
LTO		790		1021		1007	46									
LTO		41		425A		1552	77									
PRESDICTO		1140		1021		1518	53									
PRESDICTO		56		412		1528	70									
LTO		573		51		501	49									
LTO		48		425		1154	78									
LTO		501		51		501	49									
LTO		49		425B		606	76									
LTO		505		51		1000	48									
LTO		43		425A		1714	75									
LTO		1020		51		209	49									
LTO		43		425A		1713	74									
LTO		408		72		429	46									
LTO		49		425B		702	73									
LTO		458		75		458	48									
LTO		48		425B		702	73									
LTO		509		51		509	48									
LTO		42		425		675	73									
LTO		703		1021		707	41									
LTO		41		425		1577	72									
LTO		703		1021		707	41									
LTO		41		425		1370	72									
LTO		679		425		1025	46									
LTO		43		425		1508	71									

# OPS : Scope en samenhang



# LFCR





# Issues

- Remedial actions
  - Adjusting physical, not yet nominated, capacity
- Regional security coordinators
- Ramping restrictions
  - To prevent DFD
- Frequency Containment Reserves
  - activation time on 15 minutes
- Informatie uitwisseling

# Fasering

- Vaststelling fase 1:
  - OS
  - OPS
  - LFCR
- Vaststelling fase 2:
  - E&R
- Implementatie:
  - Goedkeuringen door NRA
  - Nationale codes aanpassen